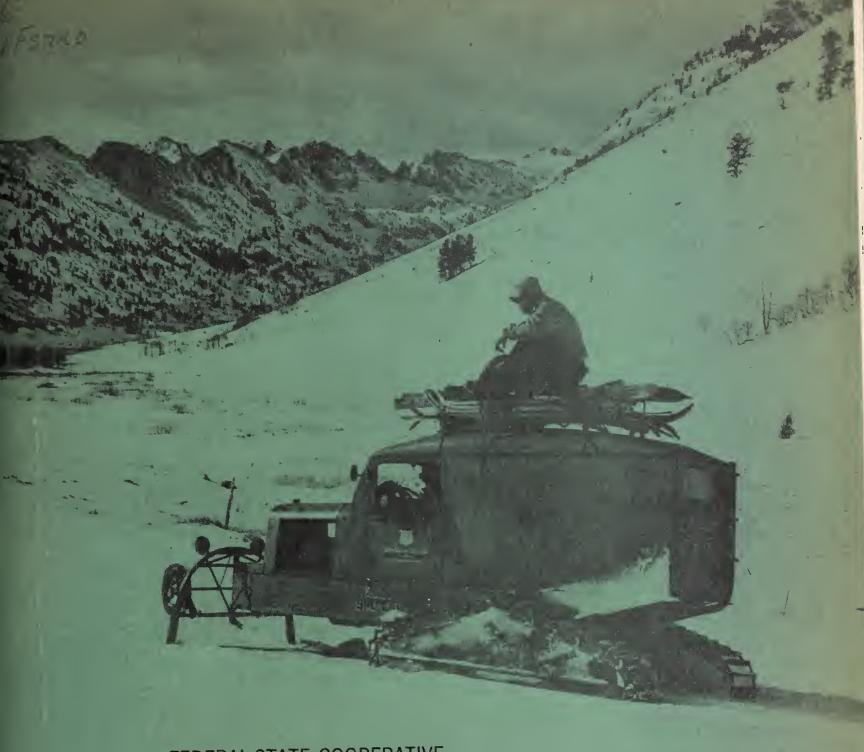
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FEDERAL-STATE COOPERATIVE

SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for

Montana and Yellowstone River Tributaries in Wyoming

By
Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Montana Agricultural Experiment Station

In cooperation with the U. S. Forest Service, U. S. Geological Survey, National Park Service, U. S. Bureau of Reclamation, State Engineers of Montana and Wyoming and other Federal, State and local organizations.



As of MAR. 1, 1950



FEDERAL-STATE COOPERATIVE SNOW SURVEY AND IRRIGATION WATER FORECASTS

FOR

MONTANA and NORTHERN WYOMING

Upper Missouri and Upper Columbia River
Basins

Report Prepared by

Ashton R. Codd: Hydraulic Engineer Soil Conservation Service

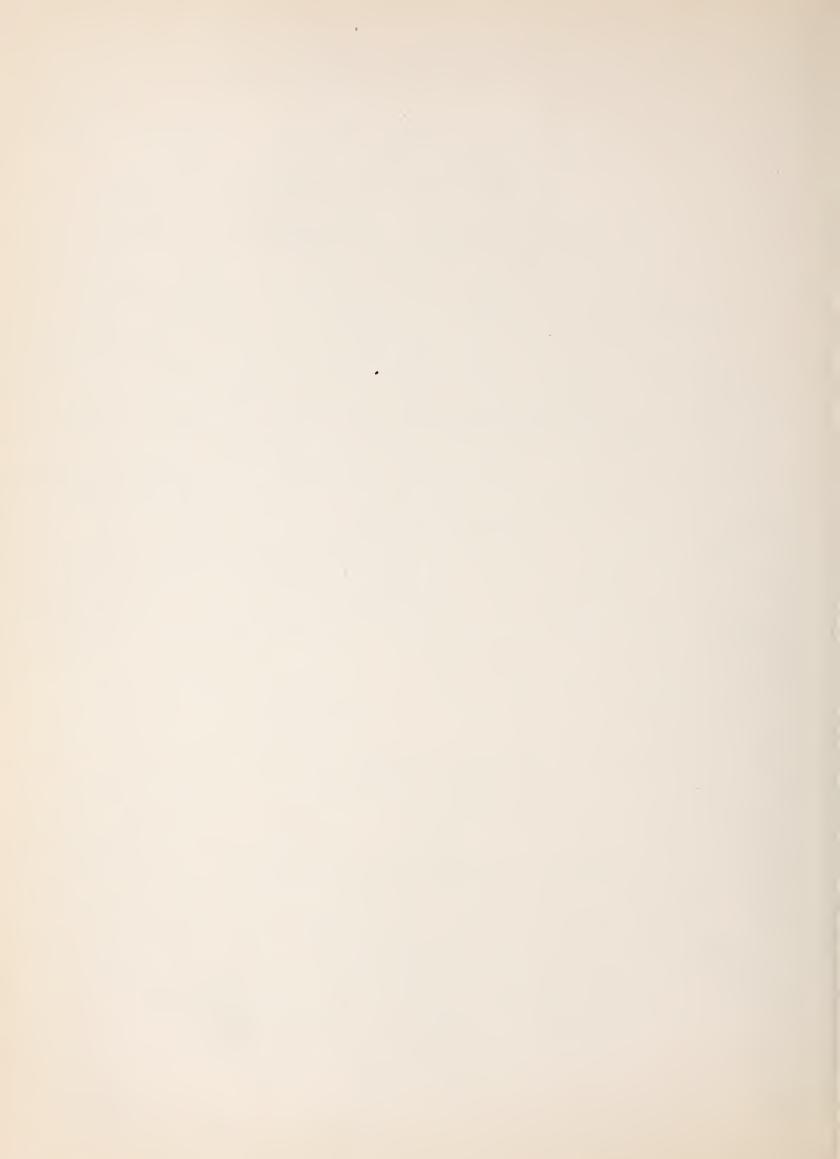
and

O. W. Monson: Head, Agricultural Engineering
Montana State College

Division of Irrigation Soil Conservation Service

and

Montana Agricultural Experimental Station Bozemen, Montana



MARCH 1, 1950 PRELIMINARY WATER SUPPLY OUTLOOK

* over the Upper Missouri, Yellowstone and Upper Columbia River * * Basins indicate only a GOOD water supply for this coming season; * * not as good as last year nor the year before. In general, the * * snow water equivalent over the Upper Columbia and central part of * * the Upper Missouri is ABOVE AVERAGE, while the Jefferson, Madi-* * son and Gallatin are somewhat BELOW AVERAGE. The Yellowstone in * * Montana is about average, while the Yellowstone tributaries in * * Wyoming are above average. Average precipitation accumulated * * totals to date for west of the divide show a slight plus of 1.81 * inches above normal. The central division of the states shows * a plus of only 0.44 inches, while the eastern division shows a * * plus of 0.30 inches * Reservoir storage on the Missouri is generally slightly * * below last year, and about the same as the year before. **********

The southerly portion of the Jefferson River Basin is in fair shape for this date with the snow water equivalent 110% of average for the last three years.

Measurements in the Horse Prairie Creek Drainage Basin are only 81% of the past three year average, while the Big Hole Riber Basin measurements are 97% of the the past three year average. The Wise River is 94% of the past three years.

The Ruby River Basin is also low, being 93% of the past three years. The Madison River is in a somewhat better condition, being 116% of a longer average (from 11 to 17 years in length). The Gallatin River Basin is perhaps the lowest where the water equivalent measurements indicate 71% of a longtime average of from 9 to 17 years. The Main Stem of the Missouris shows 83% of an average range from 10 to 17 years. Other basins on the Upper Missouri; Teton, Sun and Marias are above average, ranging from 124% to 140%.

The Upper Yellowstone River in Montana is in fair condition for this time of year showing a general 106% of a 14 year average. The Yellowstone River tributaries in Wyoming are in excellent condition being higher than last year and showing from 119% to 141% of approximately a 10 year average.

On the Upper Columbia River in Montana, comparative averages of from 5 to 17 years indicate a fair water supply as follows: Flathead, 124%; Upper Clark Fork, 109%; Bitterroot, 120%; and the Kootenai, 129%.

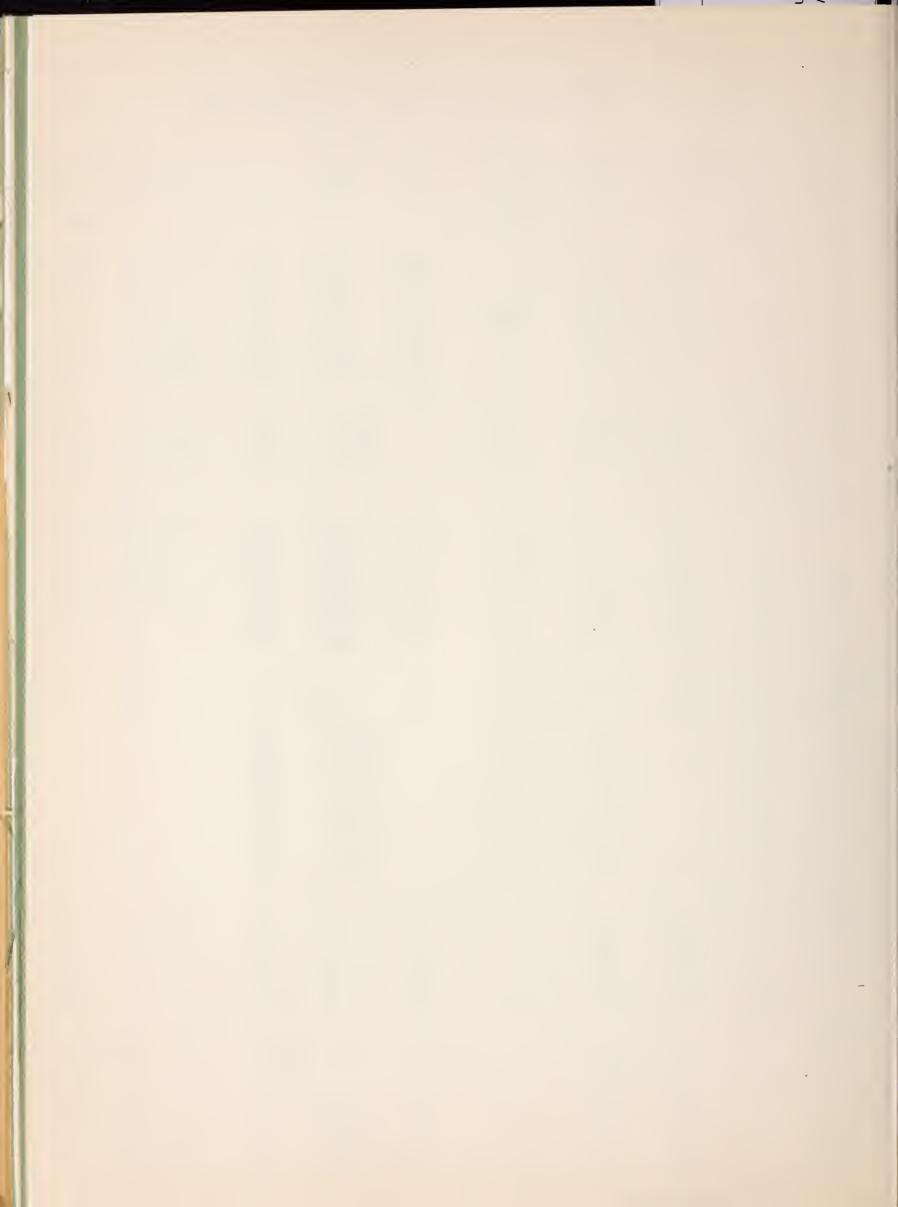
None of the figures in this bulletin include a delayed general storm which occurred from March 5 through 7. This storm would have added materially to the March 1 measurements.



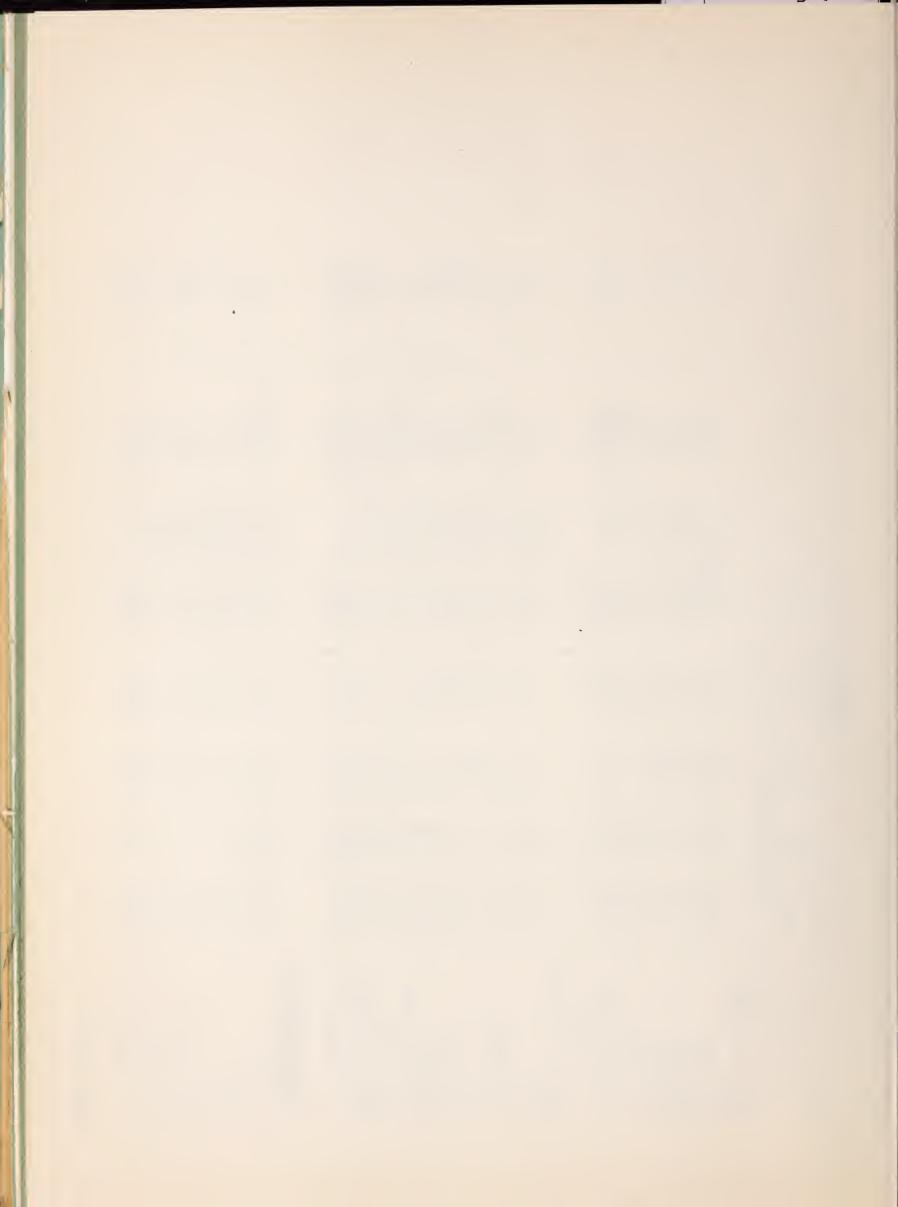
				Locatio	n								Locatio				
Draillere B s and Course M	ane 'umser	Elev.		Twp.	Ra. e Long. Drainage	Record	Measuring Dates ^a	Heasur d	Drainage Basin and Course Name BIJ HORN RICER WE.	Mumber	Elev. Miss			Range Long. inage (Co	Record Regan	Measuring Dates ^a	Measured By:b
Las shew Ridg Last thew Ridg Last thew Cany Linexiln Write Fine Ri	e 1123 on 1124 1122 dje 1121	0930 6950 8550	27 20 15 16	1L3 1L3 58 1LS	2'N 2'W 9'W 9'W	19LS 19LC 19LD 19LS	3,-,5 3,-,5 3,4 3,4	9 9 1 1	Feavers 1:11 Owl Creek Tensleep R.S. Timber Creek Ranger Creek	9F8 8F1 7E3 9E2 7E1 9F7	6900 8700 6300 8800 8800 8000	6 30 30 25 32 28	13 n 13 n 19 n 17 n 53 n 16 n	102W 101W 60W 103W 88W 103W	1918 1918 1935 1918 1935	2,3,4,5 2,3,4,5 4,5 4,5 4,5 2,3,4,5	Pd.Obs. Pd.Obs. 1 1 1
John Stone Leann Pass	15D10 13D9 15E1	7000 6100 7460	12	6S 6S 10S	10W 10W 15W	1948 1945 1945 1948	3,4 3,4 3,4	1 1 1	(ShOSHOME RIVER) WE East Entrance Sylvan Pass		7000 7100	17 12	52N 52N	109W 110W	19L8 1936	1,2,3,4,5 1,2,3,4,5	5
errell breek .ru.l Breek S-lwa, Juncti	13012 1362 on 13011	7090 2600	14 15 27	9S 10S 6S	15W 15W 15W	1945 1948	3,4 3,1 3,1	1 1	TONGUE RIVER WYO. Big Goose	7E2	7700	4	53 N	86W	1935	4,5	1
113 (OLE) Signale Pass Signale Pass Esat Boundary Tibbons Pass Jahoke Creek Winer Forks	1303 (Telow)1304 1305 1302 1308 1300	7140 6900 6700 7100 7340 7300	28 24 22 4 25 24	3s'. 3s 3s 2s 7s os	16W 15W 17W 19W 10W 17W	1948 1948 1948 1948 1948 1948	3,4 3,4 2,3,4,5 3,4	1 1 1 1,2 1	POWDER RIVER WYO. Red Fork Sour Dough	7E1 6E1	7000 8500	18 17	73n	85 พ 81 .พ	1936 1936	4,5 4,5	Pd.Obs. 1
Winer Lake WISE RIVER) Anders n "dw. Flk forn	130° 13014 13015	7000 6450	18 . 15	os 3s Ls	16W	1948 1948 1934	3,4,5 3,4,5	1 1 2 1	KOOTENAL RIVER Baree Mountain Blue Bird Basin Brush Creek	1581 14A1 14A4	6000 6800 5000	Columbia 1 24 13	25N 37N 30N	31W 26W 18W	1937 1937 1941	4,5 4,5 3,4	1 1 1
Nise River (RLBY RIVER) Cottonwood	13013	5900	15 - 24	28	12W	1948	3,4	1	Red Mountain FLATHEAD RIVER Big Creek	15A1 13B3	6000	6&7	36N 22N	29W	1937	3,4,5 4,5	1
Lottonwood (U Alas.light Tobleco Root Vijilante	pper) 11E1 12D3 12D2 11D1	6400 6950 6900 6125	30 22 13 28	10S 8S 4S 9S	2W 3W 3W	1948 1945 1948 1948	3,4,5 3,4 3,4	1 1 1	Brush Creek Cattle Queen Desert Mountain Elk Mountain	1 LAL 13A1 13A2 13BL	5000 4700 5600 6750	13 7 2L 1	30N 35N 31N 20N	26W 17W 19W	1937 1939 1937 1941	3,4 3,4 1,2,3,4,5 3,4	1 5 1 4
et.en Aest Yellowst Norris Basin	10E2	6550 6700 7 500	711°-111° 31°- 55	11S 13S	3E 5E 110°-42'	1934 1934 1935	1,2,3,4,5 1,2,3,4,5 3,4	2 2 5,0	Goat Mountain Hell Roaring Divide Kishenehn Limestone Pass Logan Creek	12B7 e 1LA3 1LA2 13B8 1LA5	7000 5770 4300 7000 4300	20 35 7 34 34	22N 32N 37N 17N 30N	10W 22W 21W 15W 2LW	1934 1942 1946 1948 1937	3,4 4,5 4,5 3,4 3,4	2 1 5 1
Devil's Slide Hood Weadow Mystic Lake New World 21-Tile TSSOURL RIVE	10pL 10p3 10p2 10p1 11E6	8100 \$600 \$600 \$700 7150	14 22 30 24 1	5s Ls 3s 3s 11s	òE oE 7E oE 5E	1935 1934 1935 1939 1934	3,4,5 3,4,5 2,3,4 2,3,4,5 1,2,3,4,5	2,6 2,0 6,7 6,7 2	Marias Pass North Fork Jocko Rainy Lake Snow Lab. # 16 Spotted Bear Mt. Strawberry Lake Trinkus Lake	13A5 13B7 13B6 13A9 13B2 13B10 13B1	5250 6330 1300 5200 7000 6500 6500	34 3 11 15 23 11	30N 17N 18N 29N 25N 28N 25N	11W 17W 16W 11W 15W 19W	1934 1941 1947 1946 1948 1948	1,2,3,4,5 3,4 3,4,5 1,2,3,4,5 3,4 3,4	2 1 2 1 1
Chessman Rese Crystal Lake Grasshopper Kings Hill Picnic Ground	701r 1205 901 1002 1001	6200 6100 7000 7950 6500	2 24 19 35 22	8n 12n 9n 13n 5n	5W 17E 8E 7E 6W	1936 1941 1938 1937 1940	1,2,3,4,5 3,4 3,4 3,4,5 2,3,4	2 1 1 2 3	Trout Lake Upper Holland Lake UPPER CLARK FORK Cheseman Reservoir	13B11 13B5	3600 7000 6200 5400	21 28 2 16	28N 20N 8N 2N	17W 16W 5W 17W	1948 1948 1948	3,4 3,4 1,2,3,4,5	1 1 2
Pipestone Pas Stemple Pass Temmile Creek Temmile Creek Temmile Creek (Throw RIVES	12C1 ,Lower 12C2 ,"iddle12C3 ,Upper 12C4	7200 6900 6250 6800 8000	11 10 13 13	1N 13N 8N 8N 8N	7 W 7 W 6 W 6 W 5 W	1938 1934 1935 1934 1935	2,3,4,5 3,4,5 1,2,3,4,5 1,2,3,4,5 1,2,3,4,5	1 2 2 2 2	East Fork Ranger S El Dorado Mine Gold Creek Lake Intergaard North Fork Jocko Picnic Grounds	1309 1308 1304 1387 1206	7800 7200 6450 6330 6500	23 14 6 3 22	8n 8n 5n 17n 5n	12W 12W 13W 17W 6W	1916 1916 1939 1911 1940	4 4 2,3,4 3,4 2,3,4	1 11 11 3 4
Fright Creek Waldron Creek West Fork	12A1	6000 5000 6000	13 10 6	26N 25N 25N	10₩ 9₩ 9₩	1948 1948 1948	3,4 3,4 3,4	1 1 1	Pipestone Pass Rainy Lake Skalkaho Summit Slide Rock Mountai: Southern Cross	12D1 13B6 13C3 n 13C2 13C5	7200 4300 7258 7100 6500	11 11 30 26	1N 18N 6N 10N 5N	7W 16W 17W 16W 13W	1938 1947 1937 1937 1939	2,3,4,5 3,4,5 4 4 2,3,4	1 1 1 1
(SUN RIVER) Bench Mark Cabin Creek 5-Bull Gates Park Goat Mountain My Lake Wrong Creek F	13B9 idge 12B3	5500 5400 5600 5300 7000 7300 6800	9 33 30 31 20 21	20 N 23 N 20 N 22 N 23 N 23 N 25 N	10W 10W 10W 10W 10W 12W 10W	1948 1949 1948 1949 1934 1950	3.4 3.4 3.4 3.4 3.4 3.4	1 1 1 2 1	Stemple Pass Storm Lake No. 2 Stuart Mill Stuart Mountain #1 Tenmile Creek, Lowe Tenmile Creek, Upre	1301 1207 1306 1301 r 1202 1e1203	6900 7780 6500 7400 6250 6800	16 19 19 6 13 13	13N LN 5N 1LN 8N 8N	7W 13W 13W 18W 6W 6W 5W	1934 1939 1939 1936 1935 1935	3,4,5 4 2,3,4 4 1,2,3,4,5 1,2,3,4,5	2 1 3 1 2 2 2 2
Warias RIVE Marias Pass Snow Lab. #1c	13 A 5	5700 5250 5200	32 34 15	25N 30N 29N	10W	1949 1936 1947	1,2,3,4,5 1,2,3,4,5	2 2	PEND OREILLE RIVER Baree Mountain Freezeout Summit Hoodoo Creek	13B1 15C3 13C1	6000 7000 6200	1 21 9&16	25N 15N 14N	31W 27W 27W	1937 1937 1937	4,5 4 4	1 1 1
(MILK RIVER) Rocky Boy	9A1	5200	15	28N	loE	1941	3,4	7	BITTERROOT RIVER East Fork R. S. Gibbons Pass	13D1 13D2	54 0 0 7100	16	2N 2S	17 W	1937 1934	4 2,3,4,5	1
(PUSSELSHELI Grasshopper UPPER YELLOW Camp Senia	1003	7000 7890	19	9N 8 s	8 E 18E	1938 1937	3 , 4	1	Mud Creek Pasture Nezperce Camp Nezperce Pase Skalkaho Summit	14c1 14p2 14p1 13c3	4500 5580 6575 7259	24 19,20 32 30	11N 1S 28N 6N	24W 23W 16E 17W	1937 1937 1937 1937	3 4 4 4	1 1 1
Canyon Cooke City Crevice "t.	10E3 10D7 10D5	7750 7 L0 0 8L00			110°-30° 1LE 9E	1938 1937 1935	1,2,3,4,5 1,2,3,4,5 3,4	Pd.Obs.	Stuart Mountain #1 ST. MARY RIVER	1301	7400 S	6 uskatche	14N evan Riv	18W er Basin	1936	L	1
Independence Lake Camp Lodgepole (W) Lupine Creek	1000 10EL 0.) 9E1 10E1	8000 7850 8200 7300	22 44°-34 32	7S 56N	12E- 110°-2L' 106W 110°-37'	1941 1937 1940 1938	3,4 1,2,3,4,5 4,5 1,2,3,4,5	Pd.Obs. Pd.Obs. 1	Iceberg Lake Piegan Pass # L Piegan Pass # C Mount Allen # 7	13A3 13AL 13Ab 13A7	5000 6500 7 000	148°=50° 148°=145° 148°=145°	, 1 , 1	13°-42° 13°-40° 13°-42°	1922 1922 1922 1922	5 5 5	2,8 2,8 2,8 2,8
(SHIELDS RIV	1003	6500	10	Lit	10E	1938	3,4	1	Ptarmigan # 8	13 A 8	5800	48°-50		13°-Ц2'	1922	5	2,8
WIND RIVER Brooks Lake & Burroughs Cre	70. 3 10F2	9200 8800	23 15	LLN L3 N	110W	1939 1948	2,3,4,5	Pd.Obs.	a. Numerals 1,2,3 b. Numerals refer								nd Nay 1.
Dirroughe Cre Dinwoodie Dry Creek DuNoir Geyser Creek Hobbs Park Little Warm Mosquito Parl Sheriden R. S St. Lawrence F T-Cress Ranol Trout Creek Togwetee Pass (FFO AGIE I	9F10 9F2 9F3 962 9F4 8.S. 963 9F1 9F1 9F1 9F1 9F1	9500 8750 8750 8500 10000 9500 9500 9500 9500 8000 81400	9 34 27 12 22 24 23 3 26 1	28 LLN 28	105m 105w 108w 108w 108w 108m 3m 109w 1m 107w 2w 110m	1946 1948 1940 1948 1948 1948 1940 1939 1940 1940 1948	2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5	Pd.00s. Pd.00s. Pd.00s. Pd.00s. Pd.00s. Pd.00s. Pd.00s. Pd.00s. Pd.00s. 1 Pd.00s. 1 Pd.00s. Pd.00s.	2. 3. 4. 5. 6. 7. 8. 9.	U. S. Fore U. S. Gool Montana Po U. S. Indi National I Montana E City of Bo Dominion U U. S. Fiel U. S. Bure Deerlodge Faid Obser	logical: ower Com lan Serv Park Serv Reperimen ozeman Mater an n and Wi eau of R Citizen	Survey apany ice vice t Static d Power ldlife S columnti	Eureau Service lon				
Blue Ridge Grannier Meas Larson Creek Sawmill Glade South Pass	872 874 974	9500 9000 9000 8500 9000	12	31n 30n 30n 31n 30n	101m 100m 103m 101m 101m	1939 1936 1948 1939 1939	2,3,4,5 2,3,4,5 3,4,5 2,3,4,5 2,3,4,5	1 1 1 1									

SUPPLEMENTAL INDEX LIST OF SNOW SURVEY COURSES IN ADJACENT BASINS, USED IN THIS REPORT AND SHOWN ON THE INDEX MAP

JINAGE AND DW COURSE	Adj. State No.	Montana Number	Elev. Feet	Section Lat.	Twp	Range Long.	Record Began	Measuremen Dates	t Meas ured By
FERSON Ligore Le Ridge Min Lip Creek Lose Creek Lis Springs Land Park Lley View	6 8 3 9 17	11E12 11E11 12E3 13D16 11E9 11E10 11E8	6200 6700 6800 6200 6500 3600 6500	6 27 21 22=27 34 28 7	12N 13N 13N 27N 19N 13N 15N	39E 38E 36E 21E 44E 43E 44E	1937 1938 1936 1937 1936 1936	1,2,3,4,5 4 1,2,3,4 3,4,5 1,2,3,4,5 1,2,3,4	pd. obs pd. obs 1 1 10 10 10
Vis Lake Div. ter Creek In Thumb Summ	9 2 it	10E9 10E8 10E7	7900 7700 7900	44-13 44-17 44-22	1	10-40 10-37 10-35	1919 1919 1949	1,2,3,4 1,2,3,4 3,4	10 10 10
ind River) gwotee Pass ndall omis Park llow Jacket ack Rock tch Joe lligan Park	12 25 26 14 2 23 24	10F1 9F12 10F4 10F5 10F3 9G6 9G5	9600 7900 8500 6775 8600 8700	29 23 14 33 4 32 17	44n 38n 37n 42n 44n 31n 35n	110W 110W 111W 112W 111W 10LW 108W	1936 1936 1942 1936 1936 1936	2,3,4,5 3,4,5 3,4,5 2, 4 4,5 3,4,5	10 1 1 10 1
OTENAI ith Creek	Idaho 13 Canada	16A1	4800	29	64N	3₩	1937	4,5	1
rnie ay Creek rble Canyon lson Creek nclair Pass llivan Mine per Elk Rives mberley	10 34 32 19 8A 20A		3500 5100 5000 3050 4500 5100 4400 3800	49-31 39-37 51-12 44-25 50-40 49-43 50-01 49-41	1 1 1 1 1	15-01 16-41 16-09 17-14 15-58 16-01 14-56	1939 1948 1947 1938 1947 1945 1945		
PER CLARK FOR Meadows okout ove Roland low Roland inset	1 10 2 3 16	0 15B10 15B2 15B7 15B6 15B9	5000 5250 4350 3770 5600	6 4 35 34 28	43n 47n 47n 47n 49n	5E 6E 6E 5E	1937 1921 1926 1926 1921	1,2,3,4,5 1,2,3,4,5 3 3	1 12* 12 12
ND OREILLE squito Ridge	Idaho 9 Idaho	16A4	5110	5	54N	2E	1937	4,5	1
t Carson vage Pass well Pasture ckers Mdw.	8 3 7	13D16 14D3 14C4 15C3 14C2	6200 4700 6000 3700 5700	22-27 4 18 27 15	27N 27N 36N 27N 38N	21N 16E 15E 14E 15E	1937 1937 1937 1937 1937	3,4,5 4 4 2,3,4,5	1 1 1 1
Mashington Wa	ter Pow	er Compan	У						



						and the state of t																		40 40		And well and a statement of the statemen			Approx.		MARKY C	
Departure	From Normal		50°0 -	50 day	3.04	±0°44	0,02		COM	1.81	-0.91	-2,31	case man data man data	-0.97	0.34	-0.50	0,22		mary many many many many many many many man	10.87		0.44	•	0,35		0.65	0,76	0,70	-0°09	comp dates cano cano cano	06°0	0.30
Accum. Sum	· ·	3	2,44	(1.46)*	7.01	6,13	4.26	(22,08)	(11,50)*	8,33	3,96	1.72	(3.37)*	2.40	3.46	1.99	3.87	(3.78)*	(4.55)*	25.13	(10.23)*	7.12	,	3.95	(5.55)*	3,20.	3.02	2.72	1.90	(2.78)*	3,05	2.97
narv	Den		-0.13		0.09	-0.29	-0.30	2,38	0.86		-0.58	-0.67	1	-0.54	-0.26	-0.23	-0.31		-0.30	0.98	5,72			-0.11	9 00 00 00	0.22	-0.12	0.07	-0.14		0.24	
February	Precinal) 1))	0.29	Incomp	0.84	0.82	0,50	5.20	2,25	1.65	0.14	0.05		0.01	0,24	0.14	0.23		0.78	3.55	6.50	1,29		0,31		95°0	0,25	0.33	0.18	CEDID - departs column CEDID	0.51	0°36
1950	Jan		0°66	0.67	2.23	1.94	1.75	8.71	4.71	2.95		0.17		0.91	0.92	1,05	1,20		1	9.35	11111	2.27		0.69	COMPANY COMPANY COMPANY	1.19	06°0	0.19	0.87	0.22	0,83	0.70
	Dec	tion	0.34	0.31	0.71	0.97	0.65	1		0,50	1.64	0.18	1,28	0.53	0.86	0.37	0.53	1,78	1,41	4°04	1,03	1.24	mer in merchanistica	0.72	0.39	0.50	0,62	0.51	0,35	0,20	1,04	0.54
19/19	Nov	Precipitation	0.53	0.27	2,03	1.42	0.72	5.28	2,95	1.89	0.57	0.13	0.23	0,05	0.03	0.15	0.51	0.18	ф°0	5.13	0,81	0.71	1	0,02	90°0	0.05	0	E	T	0.02	€⊣	0.02
-	100	Pr	0,62	0.21	1,20	0.98	0.74	2.89	2,05	1,24	1,61	1.19	1.86	.90	1,041	0.28	1.40	1,82	2,32	3.06	1,89	1,61		2,21	1,15	0,00	1.25	1,69	0,50	2.43	0.67	1.35
	STATIONS	Charles	WEST OF DIVIDE Butte	Deerlodge	Hamilton	Kalispell	Missoula	Trout Creek	Thompson Falls	(Average)	CENTRAL DIVISION Babb	Dillon	Fort Benton	Great Falls	Havre	Helena WBO	Livingston	Lewistown Arpt.	Mystic Lake	Summit (Marias)	Yellowstone Park	(Average)		Billings #2	Circle	Fraser	Malta	Mildred	Medicine Lake	Miles City	Fort Peck	(Average)



MISSOURI RIVER BASIN

	Location or on Diversion from	Usable Capacity	Contents This Month End - 1950	Contents February 1949
Lake Sewall	Missouri	37,800	32,130	24,330
Hauser Lake	Missouri	52,090	42,690	32,730
Ft. Peck Res.	Missouri 1	9,000,000	11,490,000	12,580,000
Ruby Res.	Ruby	38,500		
Harrison Lake	Willow Cr.	17,760		
Hebgen Res.	Madison River	345,000	206,800	255,900
Madison Res.	Madison River	41,000	38,660	37,970
Smith River Res.	Smith River	10,700	•	·
Gibbons Res.	N. Fk. Sun River	105,000	40,590	70,350
Willow Creek	N. Fk. Sun-Willow Cr		2,970	18,470
Pishkun Res.	N. Fk. Sun River	32,000	18,910	16,140
Lower Two Medicine L.	Two Medicine River	14,000	0	0
Four Horns Res.	Badger Creek	20,000	5 , 990	9,800
Birch Creek Res.	Birch Creek	30,000	19,290	28,380
Lake Francis Res.	Birch Creek	112,000	82,050	99,120
Ackley Lake	Judith River	5,820	4,360	
Durand Res.	N. Fk. Musselshell	7,010		
Dead Man Basin	Musselshell River	52,500		
Martinsdale Res.	So. Fk. Musselshell	23,100		
Fresno Res.	Milk River	127,200		
Nelson Res.	Milk River	66,800		
Mystic Lake	W. Rosebud Creek	20,800	8,630	9,360
Cooney Res.	Red Lodge Creek	27,500	12,350	
Tongue Res.	Tongue River	73,900	5,460	
Sherburne Lake Res.	Swiftcurrent Creek	66,100		11,580
Lake Helena	Missouri River	10,450	5,830	2,330
COLUMBIA RIVER BASIN				
Georgetown Lake	Flint Creek	31,000	18,520	28,210
E. Fk. Rock Cr. Res.	E. Fk. Rock Creek	16,040	•	
Nevada Creek Res.	Nevada Creek	12,600		9,140
W. Fk. Bitterroot Res.	E. Fk. Bitterroot	31,700	650	10,000
Como Lake	Rock Creek	34,800	·	·
Flathead Lake(Sommers)		1,791,000	657,500	651,600
Little Bitterroot	Little Bitterroot	37,100*	27,140	36,120
Dry Fork Res.	Dry Fork Creek	6,700*	3,240	3,510
Mission Valley	Mission Valley			
Reservoirs	(Flathead River)	105,000**	33,500	28,891

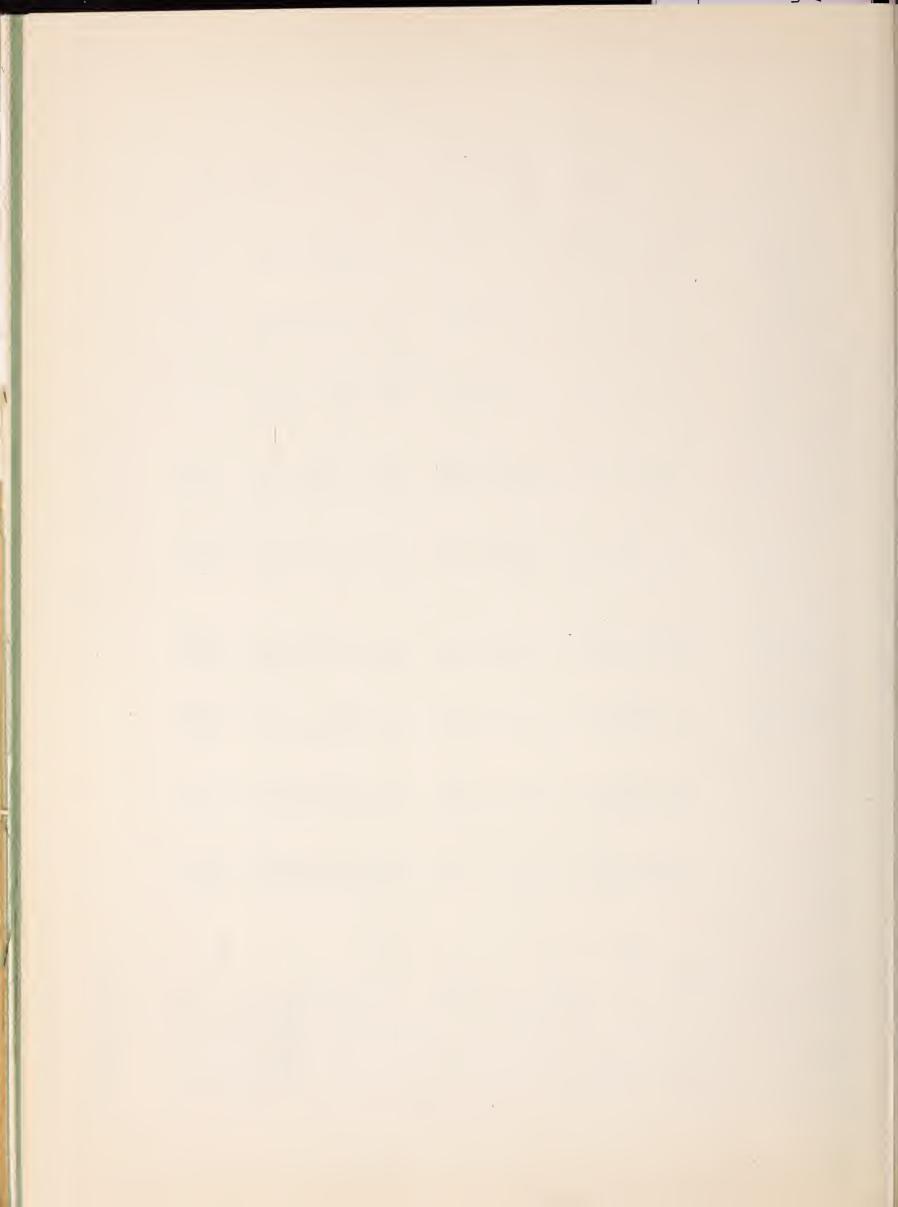
^{*}Comprise two reservoirs on Dry Creek.

*Comprise two reservoirs on Little Bitterroot River.

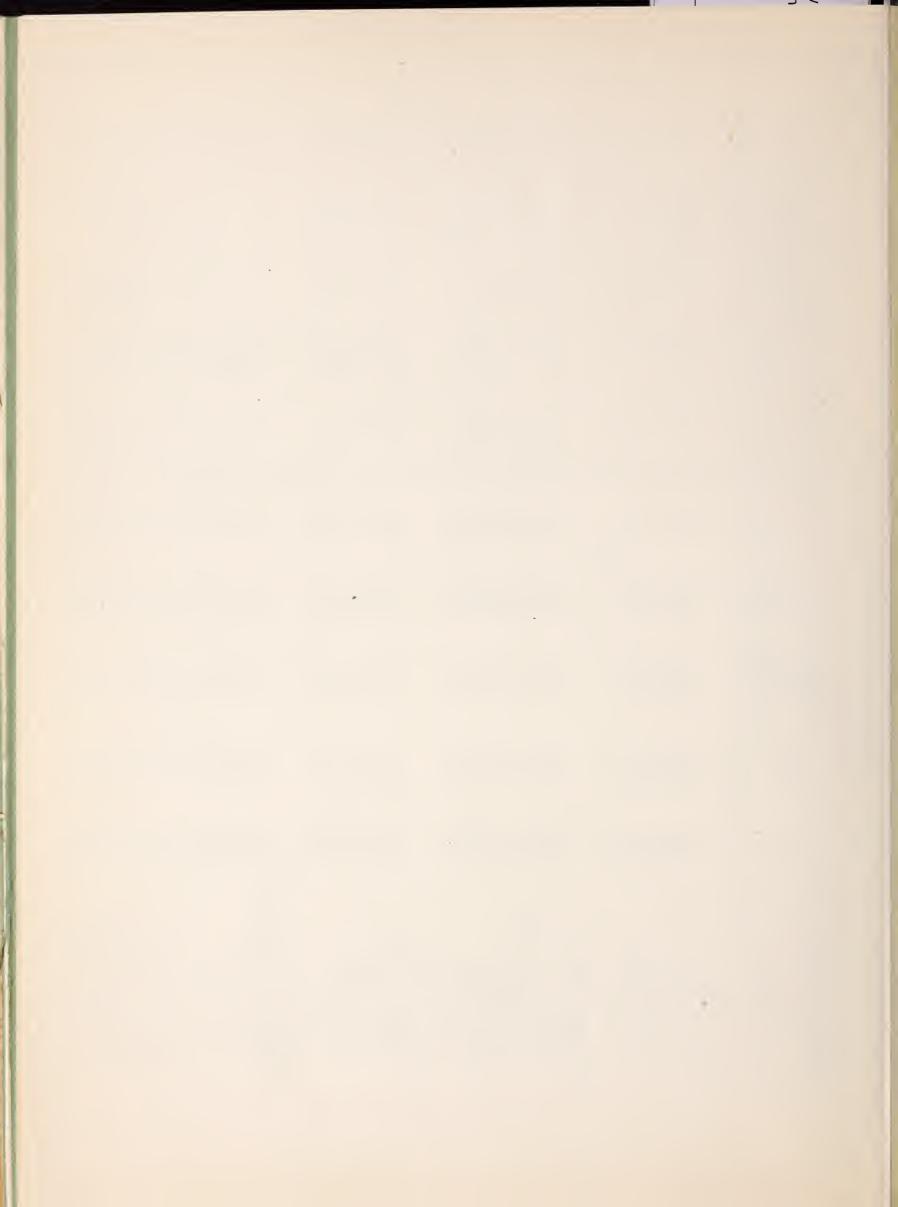
**Comprise nine small reservoirs on Mission Valley Project Indian Reclamation Service.



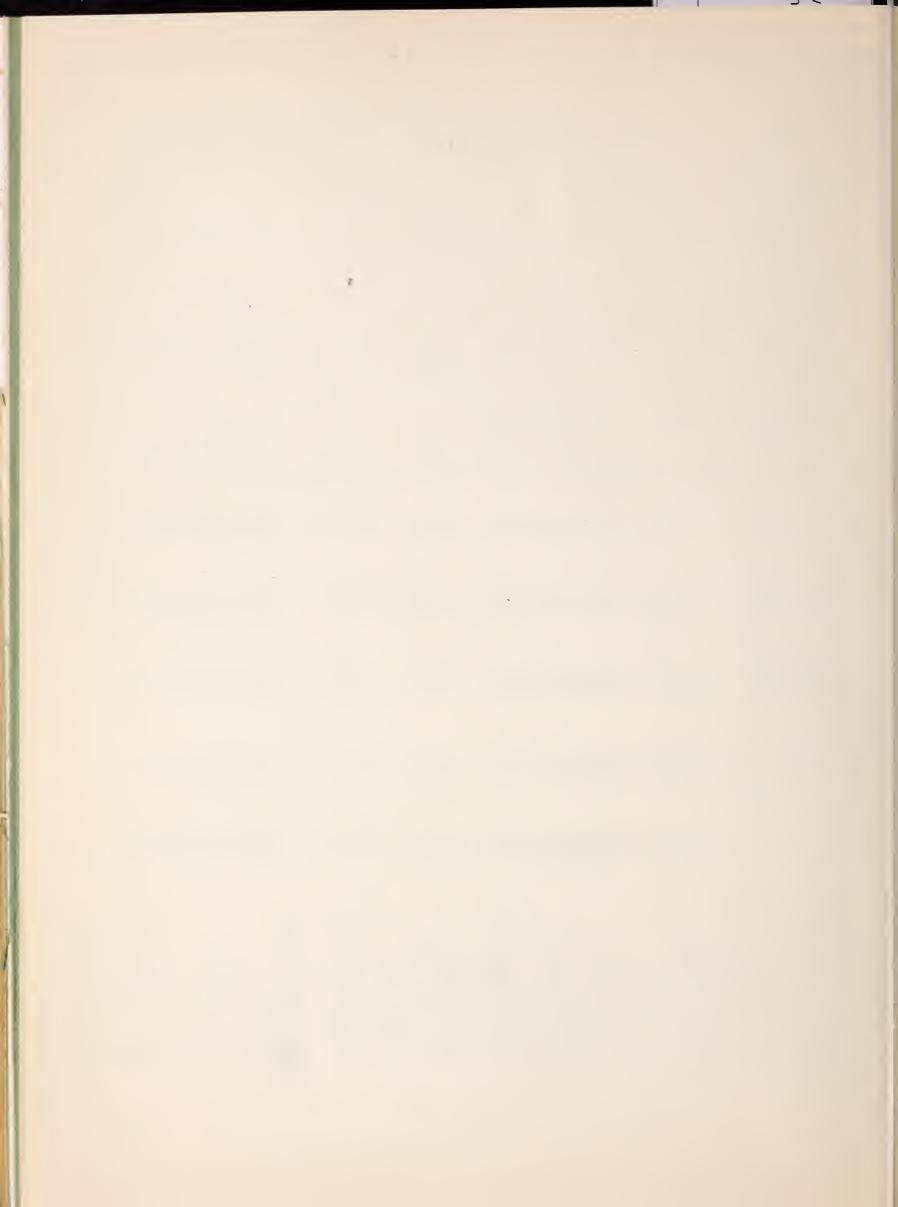
		Years	of Record		m	ım	m	M)	건	ì	~	m	m	Μ	m	~		~	<u>~</u>	ന്	18	<u>~</u>	ω,	9	13		٣/) m	
		Data	ch 1		118	135	29	102	131		87	83	72	88	89	89		82	93	101	133	87	98	80	717		92	88	
IS	Inches)	Average	March Avg, 8		8,3	10°9	ц. У	4.9	10.3	3	9.8	12.5	7,5	3.4	6,3	6,1		14.9	12.4	2 °2	18.2	9.2	9,5	7.3	12,8		7.2	0 0)
SUREMEN	\sim		Records 1948		ν, ν	5.4	ο ο -	4.9	۲۰۵	1	7.0	9.7	9°3	2.4	7.7	4.1		11,6	1.9	5,2	19.8	6,3	6,3	9.9	15.3	- ,	9°9	יע ב ב י	
SNOW MEASUREMENTS	Water Content		Past R 1949		9.2	12.5	5,6	4.9	0°0 7'0'	\ 	13.9	ъů	7.9	7°8	7.0	8° 8°		20°9	17.9	9°8	26.2	13.6	14.0	7°6	21.2		8°7	25.7	-
	Wa		March 1 1950		9.8	14.7	ر 0 0	0,0	7.9		8,77	10.4	5.4	3.0	4.3	5.4		12.2	11.5	7.6	25.2	7.2	8°5	ν, œ	14.6		6°8	7.07	\ •
	Snow		(In.) 1950			0	0	0	36.0		34.4	3	3	13.0	3	CJ.		44.2	41.6	30°6	73.1	33.4	33°6	24.0	748.0		27.8	17.8	-
	Date	of	Survey 1950		3/1	3/1	2/22	2/22	2/24 2/25	-	2/7	2/7	2/21	2/21	2/21	2/21		5/6	2/9	9,				2/8	2/27		2/10	2/20	1
		Elev.			7400	6930	6950	8850	0089		0092	8100	7400	9650	2090	6500		7440	0069	0029	7100	7340	7300	6720	6200		7000	6300)
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	DRAINAGE BASIN	AND	SNOW COURSE **	JEFFERSON RIVER	Lakeview Ridge	Lakeview Canyon	Limekiln :. :.	White Fine Ridge	*Kilgore	(Horse Prairie)	Bloody Dick	Gold Stone	Lemhi Pass	Terrell Creek	Trail Creek	Selway Junction	(Big Hole)	Pass	_	East Boundary	Gibbons Pass	Jahnke Creek	Miner Forks	Miner Lake	*Moose Creek	(Wise River)	Anderson Meadow	Wise River	



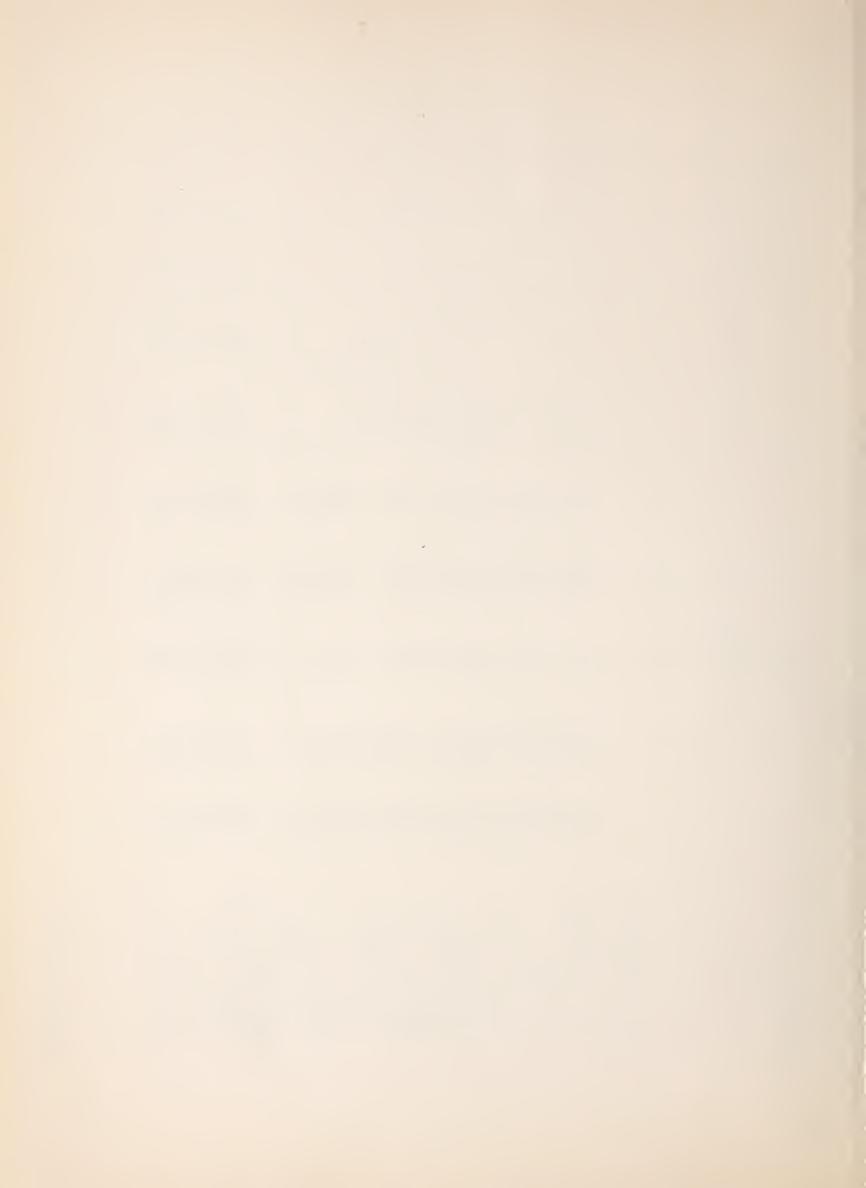
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	e Data	%Avg.	108 111 89 63	95 119 108 120 129 123	86 69 61 81	77 77 114 165 103 104
Inches)	Average March	Avg。	8,0 8,0 1,1	10.1 9.9 8.1 17.0 13.4	15.0 6.2 6.3 13.8	
	ecor	1948	7,0 4,8 4, 0,0 8,4 4	1.0.1 6.9 13.2 10.2 8.8	23.3 6.2 11.9 14.7 14.7	84,00,11 80,00,00,00,00,00,00,00,00,00,00,00,00,0
Water Content	严	949	8 9 2,0 1,0 1,0	14.0 14.4 26.4 21.8 17.3	18.1 8.7 9.8 11.2 20.5	7,71 1,6,51 1,0,0,0,1 1,0,0,0,1
Wa	March 1	1950	8.6 8.9 3.2 5.0 5.0	9.6 11.7 8.7 20.4 17.3	12.9 4.3 3.8 5.3	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Snow	Depth (In.)	1950	30°3 30°3 13°9 20°4 NO S	36.2 35.0 52.0 52.0	52.7 21.8 21.2 52.5	23. 23. 23. 23. 23. 23. 23. 23. 23. 23.
Date	of Survey	1950	2/27 2/27 2/24 2/24 2/24	2/27 2/28 2/9 2/25 2/27 2/27	2/26 2/25 3/5 2/27	3/3 2/27 1/28 3/27 1/28 3/27
	Elev.		5900 8400 6950 6900 6125	6550 6700 7500 6500 3600 6500	8100 6600 6600 6700 7150	6200 6100 7000 7950 6500 6250 8000 8000
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MISSOURI BASIN DRAINAGE BASIN	AND SNOW COURSE ***		(Ruby River) Cottonwood Cottonwood Flashlight Tobacco Root Vigilante	MADISON RIVER Hebgen West Yellowstone Norris Basin *Big Springs *Island Park *Valley View	GALLATIN RIVER Devil's Slide Hood Meadow Mystic Lake New World 21-Mile	MISSOURI RIVER MAIN S Chessman Reservoir Crystal Lake Grasshopper Kings Hill Picnic Grounds Pipestone Pass Stemple Pass Tenmile, Lower Tenmile, Widdle Tenmile, Upper



	Years	Pegord	וופרסז מ		~ α	., m	١	~	7	~	7 7	17	٦	2 0	8		17	7	10		13		۷۸.	14	7 2	177	13	33	H.	
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	Elevo				0009	0009		5500	2700	2600	5300	000/	(300	0089	2700	1	5250	2200	5200		2000		1750	7400	8000	7870	7300	2000	7700	2200
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DRAINAGE BASIN		SNOW COURSE **		(Teton River)	Fright Creek	West Fork	(Sun River)	Benchmark	Cabin Creek	5-Bull	Gates Park	Goat Mountain	My Lake	Wrong Creek Ridge	Wrong Creek	(Marias River)	Marias Pass	Snow Lab. #16	(Milk River) Rocky Boy	(Wusselshell River)	Grasshopper	UPPER YELLOWSTONE	Canyon	Cooke City	Thyonorpour	Lake Camp	Lupine	*Lewis Lake Divide	*Astor Creek	ALOIN LIMIED DOMINITO

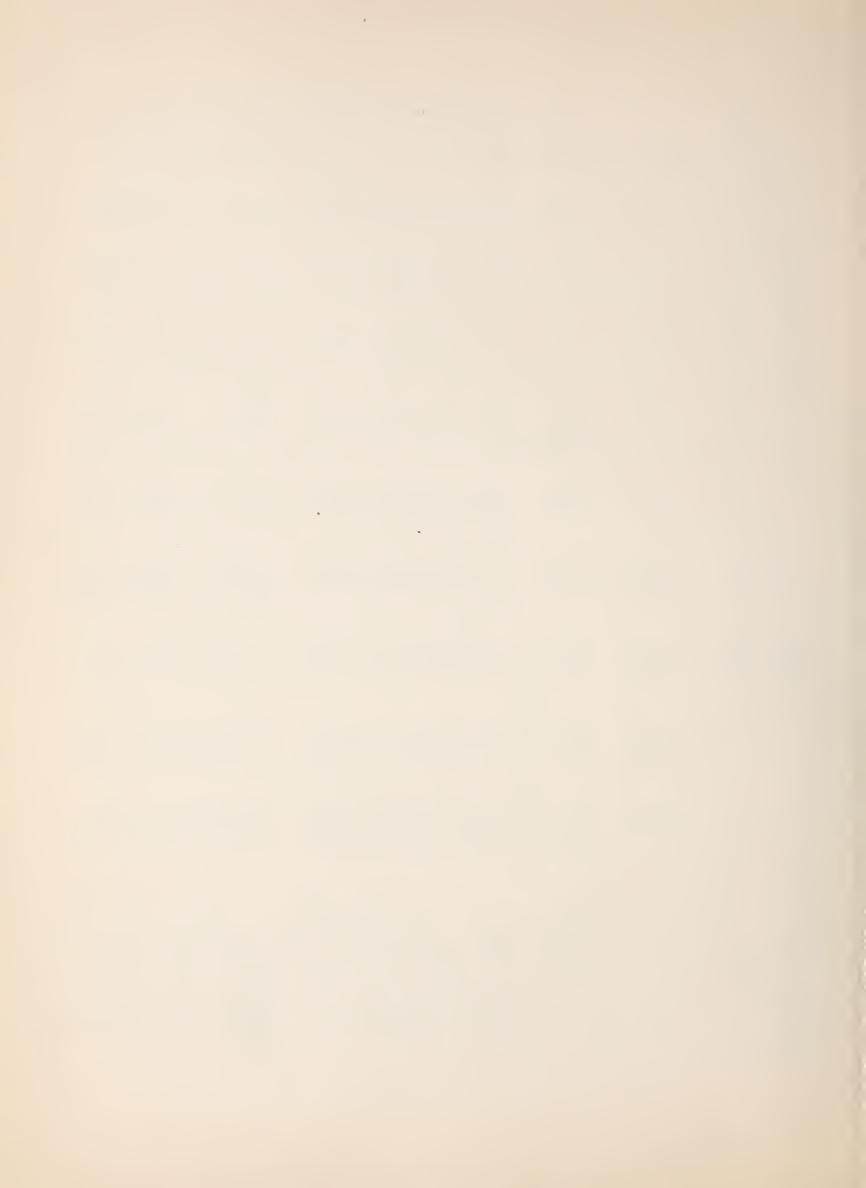


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	ţ	Elev.		9200		9200	8800	10000	8750	8500	10000	9500	9500	7500	0006	8000	8400	7900	8500	67.75	0	9200	2006	0006	8500	0006	8900
	:	°°		1003		10F2	9F6	9F10	9.F.2	9F3	9G2	9F.L	963	9F1	9F11	9F5	961	9F12	LOF.	LOF	CCC	200	004	9G1	8G.1	863	965
MISSOURI BASIN	DRAINAGE BASIN	AND SNOW COURSE **		(Shields River) Porcupine	LOWER YELLOWSTONE (Wind River)	Brooks Lake #3	Burroughs Creek	Dinwoodie	Dry Creek	Geyser Creek	Hobbs Park	Little Warm	Mosquito Park	Sheridan	St. Lawrence	T-Cross Ranch	Trout Creek	*Kendall	*Loomis Fark	*Yellow Jacket	(Popo Agie River)	agning anto	Grannler Meadows	Larsen Creek	Sawmill Glade	South Pass	*Mulligan Park



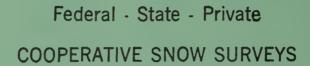
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			h 1 AAvg.	129	80		102		173	122	777	131	137		128		152	945	103	157
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	Date	of	Survey 1950	2/28 3/1 2/27	2/27 2/26	BASIN	3/2	2/28	2/28	2/27	2/27	3/1 2/28	2/28 2/28		3/1	ĭ	2/27	2/28	3/3	2/25
		Elev。		8000 8700 8800	7000	COLUMBIA RIVER	2000	3500 100 100	3800	2000	3050	6000 14500	6100 1400		6750	4700	5600	7000	1300	5250 6330
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MISSOURI BASIN	DRAINAGE BASIN		SNOW GOURSE **	BIG HORN RIVER (Wyoming Beaver's Mill Owl Creek Timber Creek	SHOSHONE RIVER (Wyoming) East Entrance 103 Sylvan Pass 103	KOOTENAI	Brush Creek	Fernie Grav Greek	Kimberley	Marble Canyon	Nelson Creek	Ked Mountain Mont. Sinclair Pass	Sullivan Mine Upper Elk River	FLATHEAD RIVER	Big Creek Brush Creek	Cattle Queen	Desert Mountain	Goat Mountain	Logan Creek	Marias Pass North Fork Jocko

*Adjacent Basins



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	11 CH	υ τ εν.			4300	5200	2000	6500	9	3600		00292	0000	002)	2450	6330	9200	7200	7500	6500	0069	6500	6250	0089	8000	2000	5250		7100	4500	5560 6676	6200	
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1	DRAINAGE BASIN	SNOW COURSE **		FLATHEAD RIVER Continued	Rainy Lake	Snow Lab. #16	Spotted Bear Mt.	Strawberry Lake	Trinkus Lake	Trout Lake Upper Holland Lake	UPPER CLARK FORK	Chessman Reso	ET Dorado Mille	Gold Creek Lake	Intergaard	North Fork Jocko	Picnic Grounds	Pipestone Pass	Rainy Lake	Southern Cross	Stemple Pass	Stuart Mill	Tenmile, Lower	Tenmile, Middle	Tenmile, Upper	*µ9 Meadows	*Lookout	BITTERROOT	Gibbons Pass	Mud Creek Pasture	Nezperce Camp	*Moose Creek	

*Adjacent Basins



Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"